

CLAIMS

1. A pipe coupling including:

a body having an external thread and annular inner surfaces defining a socket within the body of larger outer diameter at an outer end than at an intermediate location of said socket;

a stop extending at least partially around the annular inner surface in the intermediate location of said socket at a position offset from the end of said intermediate location where the end is distal from said outer end;

a nut having an internal thread at an inner end thereof engaging said body external thread, an inwardly facing abutment surface between ends of said nut, and an outwardly converging internal circular surface between said abutment surface and an outer end of said nut;

an annular sleeve having an abutment surface at its outer end co-operable with said nut abutment surface, and a resilient gasket secured to its inner end;

a deformable gripping member having an outwardly converging outer surface complementary to said outwardly converging internal nut surface, the gripping member having an internal surface with barbs extending radially inwardly therefrom; internal diameters of said socket inner end, sleeve and gripping member all being slightly greater than an external diameter of a pipe to which said coupling is securable, such that an end of said pipe is freely insertable through said gripping member and into said socket intermediate part until it abuts the stop, and tightening of said nut over said external thread causes axial movement of said gasket ring, sealable engagement of said gasket ring and said body, radially inward deformation of said gripping member such that the said barbs clamp said pipe, and axial movement of said pipe over the stop and towards the end of said intermediate location.

2. A pipe coupling as in claim 1 wherein the stop is an annular abutment surface extending circumferentially around the annular inner surface.

3. A pipe coupling as in claim 1 wherein the stop is a plurality of projections positioned circumferentially and symmetrically around the inner annular surface.

4. A pipe coupling as in claim 3 where there are at least three projections disposed 120 degrees angularly to each other.
5. A pipe coupling as in claim 3 or 4 wherein the projections are wedge shaped projections whose longitudinal direction extends in the longitudinal direction of the coupling.
6. A pipe coupling as in claim 5 wherein the front surface of the wedge facing the outer end is disposed at an angle other than a right angle but greater than 45 degrees to the longitudinal axis.
7. A pipe coupling as in claim 6 wherein the front surface has at least two faces whose angle to the longitudinal axis is less than 90 degrees.
8. A pipe coupling as in claim 3 or 4 wherein the projections are wedge shaped projections whose longitudinal direction extends generally perpendicular to the longitudinal direction of the coupling.
9. A pipe coupling as in claim 8 wherein the wedge shaped projections are of an arcuate shape.
10. A pipe coupling of the type where a pipe is freely insertable into the coupling and including:
 - a body having annular inner surfaces and external threads;
 - a nut having internal threads adapted to engage said body;
 - a grip ring disposed within the body and of a shape and configuration that rotation of the nut causes it to move in both the axial and longitudinal direction, said nut having projections adapted to engage said pipe when the nut is tightened and having an end adapted to engage a gasket and move it into a sealing cavity when the nut is tightened, wherein said body includes an abutment surface located at a position away from the ends of said body to provide a guide to the user when inserting the pipe freely into the coupling and where the abutment surface is of a shape and configuration such that under rotation of the nut the pipe is caused to move over said abutment surface and further into said coupling.